



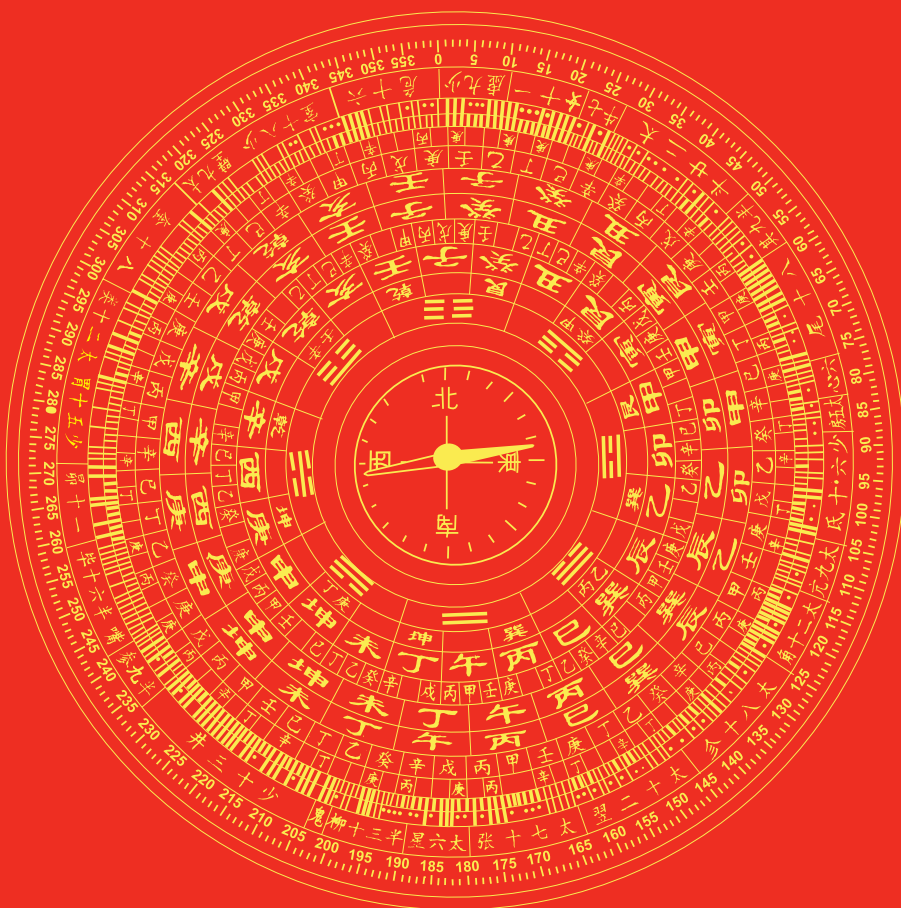
NAVAL WAR COLLEGE

CHINA MARITIME STUDIES INSTITUTE

Number 5

## Five Dragons Stirring Up the Sea

Challenge and Opportunity in China's Improving  
Maritime Enforcement Capabilities



Lyle J. Goldstein

Report Documentation Page				Form Approved OMB No. 0704-0188	
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1. REPORT DATE <b>APR 2010</b>		2. REPORT TYPE		3. DATES COVERED <b>00-00-2010 to 00-00-2010</b>	
4. TITLE AND SUBTITLE <b>Five Dragons Stirring Up the Sea. Challenge and Opportunity in China's Improving Maritime Enforcement Capabilities</b>				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>Naval War College,China Maritime Studies Institute,686 Cushing Road,Newport,RI,02841-1207</b>				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release; distribution unlimited</b>					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT <b>Same as Report (SAR)</b>	18. NUMBER OF PAGES <b>53</b>	19a. NAME OF RESPONSIBLE PERSON
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			



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[www.usnwc.edu/Research---Gaming/China-Maritime-Studies-Institute.aspx](http://www.usnwc.edu/Research---Gaming/China-Maritime-Studies-Institute.aspx)

*Naval War College*

Newport, Rhode Island  
Center for Naval Warfare Studies  
China Maritime Study No. 5  
April 2010

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Printed in the United States of America

The China Maritime Studies are extended research projects that the editor, the Dean of Naval Warfare Studies, and the President of the Naval War College consider of particular interest to policy makers, scholars, and analysts.

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ISSN 1943-0817

ISBN 978-1-884733-76-5

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## Five Dragons Stirring Up the Sea

### Challenge and Opportunity in China's Improving Maritime Enforcement Capabilities

In an age of delicate maneuvering among the great powers, coast guards have taken new and leading roles on the world stage. When Washington wanted to demonstrate conviction and bring supplies to beleaguered Georgia without escalating already simmering tensions around the Black Sea, the USCGC *Dallas*, a large U.S. Coast Guard cutter, was quickly dispatched.<sup>1</sup> The trend has long been visible in Asia. Tokyo's most extensive use of deadly force in the postwar era was an action by the Japanese coast guard against a North Korean surveillance vessel.<sup>2</sup> More recently, a Japan Coast Guard cutter sank a Taiwanese fishing vessel in a collision near the disputed Senkaku/Diaoyutai Islands in the East China Sea, prompting a relatively serious diplomatic incident.<sup>3</sup> These most powerful coast guards are spawning imitators. India, for example, announced a bold new purchase of long-range patrol aircraft for its coast guard in the fall of 2008.<sup>4</sup> South Korea's improving coast guard, meanwhile, has invited foreign reporters to a tour in the vicinity of islands that are administered by South Korea but claimed by Japan, accompanying the visit with belligerent rhetoric.<sup>5</sup>

In light of this background, but also of the wide consensus that the rise of China is one of the most important phenomena for international security in the twenty-first century, it is especially curious that almost nothing is known about the organization, capabilities, service culture, or prospects of China's coast guard. While the Japan Coast Guard has appropriately drawn the recent attention of scholars in the field, China's developments in this regard have been neglected, despite the availability of ample source material in Chinese.<sup>6</sup> Notably, a leading expert on China's "frontier defense" recently observed that his own work "examines only China's approach to securing its land borders. . . . Future research should study China's approach to maritime defense."<sup>7</sup> Of course, there has been considerable scholarly attention to Chinese naval development, and this is wholly appropriate.<sup>8</sup> Nevertheless, studies of Chinese naval development tend to focus on offshore and high-intensity combat scenarios, including submarine operations and amphibious exercises, as well as the potential future possibilities for extended sea-lane defense, power projection, and nuclear deterrence. A widely noted incident in March 2009 involving U.S. surveillance vessels and Chinese maritime enforcement vessels (alongside Chinese

fishing boats) has also increased the salience of understanding China's nonmilitary maritime-enforcement capabilities.

In general, coastal-defense issues and, especially, questions related to so-called nontraditional security have not been adequately explored in the Chinese maritime context. If Chinese perceptions with respect to coastal management and monitoring, port security, piracy, narco-trafficking, environmental protection, and search and rescue continue to be poorly understood outside of China, cooperation among the maritime powers of East Asia may well remain underdeveloped as well.<sup>9</sup> The unprecedented December 2008 deployment of the Chinese navy to join other navies in the Gulf of Aden in counterpiracy operations is unquestionably a major step in the right direction. But much more can and should be done to find common ground with China in countering nontraditional threats.

Today, China remains relatively weak in the crucially important middle domain of maritime power, that between commercial prowess and hard military power, which is concerned with maritime governance—enforcing a nation's own laws and ensuring “good order” off its coasts.<sup>10</sup> Despite major improvements over the last decade, China's maritime enforcement authorities remain balkanized and relatively weak—described in a derogatory fashion by many Chinese experts as so many “dragons stirring up the sea.”<sup>11</sup> In Northeast Asia, China's weak maritime enforcement capacities are the exception, especially when compared to the coast guard capacities of Japan (or, outside the region, of the United States). Indeed, Japan's coast guard was recently described as almost, if not quite, a second navy for Tokyo.<sup>12</sup>

China's relative weakness in this area is a mystery, one that forms the central research question of the present study. This condition of relative weakness is outlined in the paper's first part. The second part describes and analyzes the current situation of each of the five most important bureaucratic agencies responsible for maritime enforcement and governance in China today. The third part of this paper raises the question of what relationships these entities, and any future unified Chinese coast guard, would have with the Chinese navy. Before turning to implications and prospects, the fourth delves into a variety of macroexplanations for the weakness of China's coast guard entities today. Part five analyzes the possibilities for future maritime security cooperation, by looking closely at U.S.-China civil maritime engagement between coast guard entities over the last decade. The final part elaborates on three possible strategic implications of enhanced Chinese coast guard capabilities. This study, as a whole, draws on hundreds of Chinese-language sources, interviews in China, and, especially, a highly detailed and remarkably candid 2007 survey by Professor He Zhonglong and three other faculty members at the Border Guards Maritime Police Academy in Ningbo.<sup>13</sup>

The continuing evolution of Chinese coast guard entities into more coherent and effective agents of maritime governance presents both a challenge and an opportunity for security and stability in East Asia. Enlarged capacities will naturally result in more stringent enforcement of China's maritime claims vis-à-vis its many neighbors.<sup>14</sup> However, a more benign potential result is that enhanced Chinese capacities in maritime governance may result in greater willingness by Beijing to support global maritime safety and security norms as a full-fledged and vital "maritime stakeholder."

### **Relative Weakness in a Strong Neighborhood**

The weaknesses in China's coast guard capacities are amply evident to Chinese maritime analysts. They view these capacities as disproportionately small, given the scale of China's maritime development. He Zhonglong and his colleagues write: "Our current maritime law enforcement forces . . . are not commensurate with our status and image as a great power."<sup>15</sup> He and his coauthors elaborate: "Currently, among maritime enforcement ships, the vast majority consists of small patrol boats of less than 500 tons, and the number of ship-borne helicopters is such that these forces cannot meet the requirements of comprehensive maritime law enforcement."<sup>16</sup> The Ningbo Maritime Police Academy faculty assert that the present situation is intolerable: "China is a country with a large population, and its land-based resources are insufficient. The oceans can replace and supplement for land space and with respect to resources have enormous latent capacity and strategic significance."<sup>17</sup>

By contrast, other Pacific powers, and especially the United States and Japan, wield tremendously strong and effective coast guards. This unfavorable comparison is well documented and understood among Chinese maritime analysts.<sup>18</sup> Indeed, the level of detailed understanding in China of American and Japanese coast guard capacities is impressive, suggestive simultaneously of envy and admiration.<sup>19</sup> Illustrating the relative weakness of Chinese coast guard capacity, He Zhonglong, for instance, notes that the U.S. Coast Guard (USCG) is equipped with 250 aircraft of different types, while the Japanese coast guard has seventy-five. Chinese coast guard entities, with much less developed aviation forces, probably field fewer than three dozen aircraft of all types.<sup>20</sup> Aircraft are crucial for both long-range patrol, on the one hand, and complicated rescues, on the other. Moreover, the professional requirements for a nation's coast guard to maintain a strong aviation component are considerable. Therefore, these numbers are reflective of the very large gap that separates China from these other major Pacific coast guard forces, a fact duly noted by the Ningbo Academy study.<sup>21</sup> Table 1 illustrates that although coast guard entities of the People's Republic of China (PRC) have relatively many small and very small patrol vessels (under 1,500 tons), Beijing is well behind both Washington and Tokyo in numbers of medium-sized (1,500–3,000 tons) and large (over 3,500 tons)

cutters.<sup>22</sup> The Ningbo Academy study additionally points out that the Republic of Korea (ROK) undertook in 1996 a successful unification of disparate maritime enforcement elements into a single, powerful Korea Coast Guard, modeled on the American and Japanese paradigms.<sup>23</sup>

**Table 1.** *Pacific Coast Guards Compared*

Source: He Zhonglong et al., *Research on the Building of the Chinese Coast Guard*, pp. 142–43.

Country	China	South Korea	Japan	USA
Length of coastline (km)	18,000	11,542	30,000	160,550
Large cutters (3,500 tons+)	8	5	11	12
Midsized cutters (1,500 tons+)	19	9	37	32
Small cutters (500 tons+)	149	66	82	44
Small boats (100 tons+)	304	111	107	258

Beijing's impulse to upgrade its coast guard capabilities is clearly related to its overall strategic goal of increasing its maritime capabilities more generally and is thus quite consistent with China's rapid naval development. Indeed, the implications of this initiative for East Asian security are considerable and will be analyzed at the conclusion of this study. The tone of the Ningbo Academy analysis certainly does suggest the significance of the national security factor in Chinese thinking about maritime enforcement capabilities. Its authors observe, for example, that "today, cold war thinking still exists in many countries. . . . [T]here are hostile attitudes."<sup>24</sup> Regarding the delicate issue of sovereignty in the South China Sea, the same analysis notes: "On the one hand, China and the ten states of ASEAN signed the code of conduct with respect to the South Sea in Phnom Penh, [but] to some degree, what has happened is that China's sovereignty and interests continue to be seriously encroached upon."<sup>25</sup> This motive is not surprising and is consistent with strong nationalism extant among Chinese intellectuals and policy analysts more generally.

However, another strong current is evident in China's buildup of coast guard capacities, one that is quite cognizant of globalization and the growing interdependence among nations. In this current of thinking, also amply evident in the Ningbo Academy analysis, can be found the quite sophisticated and encouraging notion that strong coast guards might, by their versatile nature, actually serve as cushions between navies, helping to mitigate the possibility of interstate conflict in East Asia. Along these lines, it is reassuring that He Zhonglong and his coauthors conclude, "Everyone lives together on one planet, and are confronted by common threats, and have common interests."<sup>26</sup> Another

analysis likewise notes that international relationships built with other coast guards have “many time[s] succeeded in foiling transnational criminal activity.”<sup>27</sup> The study by the Ningbo Academy faculty ultimately pinpoints the organizational factor in explaining weakness in Chinese maritime enforcement capacity. As its coauthors write,

The organizational set up of China’s maritime governance is not ideal. For a long time, there has been the situation of “a group of dragons stirring up the sea”: in every situation there are multiple agencies involved, each with their own competence and scope of jurisdiction overlapping, as well as glaring gaps. Internally, this creates problems with respect to consistent enforcement, while externally there is no unity of effort. The result is a situation of a passive, weak, and ineffective force.<sup>28</sup>

While this explanation in itself is quite persuasive, this analysis will evaluate some other potential causes of this weakness as well, in addition to evaluating prospects for reform, the potential for developing further international cooperation in maritime security, and the attendant strategic implications for East Asian security.

### China’s Five Maritime Enforcement Dragons

Altogether, China’s “five dragons stirring up the sea”—that is, the five agencies that constitute the nation’s maritime enforcement capabilities—amount to roughly forty thousand personnel, according to the analysis by Ningbo Academy.<sup>29</sup>

**Table 2.** *Planning Requirement for Chinese Maritime Enforcement Vessels*

Source: He Zhonglong et al., *Research on the Building of the Chinese Coast Guard*, p. 142.

	Tonkin Gulf	East China Sea	Yellow Sea	Bohai Gulf	South China Sea	Total
Large cutters (3,500 tons+)	—	4	—	—	4	8
Midsized cutters (1,500 tons+)	2	6	5	1	5	19
Small cutters (500 tons+)	20	30	30	26	43	149
Small boats (100 tons+)	26	95	103		80	304

The following section briefly describes the organization, missions, and capabilities of each of the “dragons.” However, it should be noted that while the Maritime Safety Administration (MSA) is remarkably transparent, the other, smaller organizations are less accessible and therefore less well understood.

#### *The Maritime Police of the Border Control Department (BCD)*

The China Maritime Police (公安边防海警部门) is a part of the Border Control Department, which is an elite subcomponent of the People’s Armed Police, under the

Ministry of Public Security. This pattern is likely derived from the Soviet model, which also designated border guards as a separate and elite formation. The China Maritime Police operate speedboats and small cutters generally. These craft are often armed with machine guns or small cannons. It is worth emphasizing that this force is armed, because several of the other important dragons are unarmed, raising a host of complications.

A current workhorse of the Maritime Police fleet is the Seal (海豹) HP1500-2, a high-speed patrol craft. These small vessels are capable of fifty-two knots, have a range of 250 km, and require a crew of six to eight personnel. Their intended missions include escort, on-the-water marine inspections, and search and rescue. The new standard small cutter for the Maritime Police is the Type 218. This design is forty-one meters in length; has a beam of 6.2 meters; displaces 130 tons; develops a top speed of twenty-nine knots; carries a crew of twenty-three; and mounts a single, 14.5 mm machine gun. A large Type 718 patrol cutter for the Maritime Police was apparently launched in 2006. It displaces 1,500 tons, and has a length of one hundred meters, a helicopter landing platform, and a 37 mm cannon. The Maritime Police also recently took possession of two older People's Liberation Army (PLA) Navy *Jianghu* frigates, after they had been overhauled and renamed *Haijing* (海警) 1002 and *Haijing* (海警) 1003. At this time, the Maritime Police has no aviation assets.<sup>30</sup>

**Photo 1.** This 1,000-ton Type 718 cutter, *Haijing* 1001, serves with the China Coast Guard of the Ministry of Public Security. This ship, launched in 2006, has a single 37 mm deck gun. This is the China Coast Guard's most modern vessel. (China Defense Forum)



**Photo 2.** Haijing 1002 is one of two new China Coast Guard cutters that were transferred to the Public Security Ministry from the PLA Navy. They were formerly Jianghu-class missile frigates. China Maritime Surveillance is another civil maritime agency that has received ships from the PLA Navy. (China Defense Forum)



The main training academy for the maritime police is in Ningbo. However, not all the students at the Ningbo Academy are maritime police; its students receive a generalized border-guard curriculum in their first years and apparently can opt into the maritime specialty about halfway through the program. Training facilities at the Ningbo Academy are impressive, especially the engineering and shiphandling simulators, which use

**Photo 3.** A small patrol boat in service with the China Coast Guard. Chinese civil maritime authorities have lacked for an adequate motor surfboat for rescue operations and have apparently considered purchases from abroad to fill this requirement. (China Defense Forum)



advanced software to create a high degree of fidelity comparable to simulators in use in the West.

The primary mission of the Maritime Police is crime fighting, but emergent threats of special concern include terrorism and piracy. Although no cases of maritime terrorism have been reported in or against China, fears have been heightened by the 9/11 attacks

against the United States, continued unrest among certain minority populations in China that have resorted to terrorist tactics, and a naturally heightened consciousness resulting from the Olympic Games in Beijing. During the games the Maritime Police apparently sortied thirty ships each day and stopped or detained over a thousand vessels.<sup>31</sup>

**Photo 4.** Ministry of Public Security forces on a China Coast Guard cutter participate in a drill. Most of China's other civil maritime agencies are unarmed. This has caused some consternation, for example, when Fisheries Law Enforcement Command vessels are lacking deterrence or enforcement capabilities. (China Defense Forum)



On the theme of vulnerability along the coasts, He Zhonglong and his coauthors write, “Our country’s cities of Hong Kong, Macau, Shanghai, Guangzhou, and such important cities along the coast . . . could become the major targets of surprise attack by international terrorists.”<sup>32</sup> Another China naval affairs analyst observes with similar concern that “armed groups from the Middle East are becoming more and more interested in maritime, surprise terrorist attacks.”<sup>33</sup> Indeed, Chinese military and naval analysts have been keen to learn any lessons that have emerged from the November 2008 terrorist attacks against Mumbai, which involved insertions by boat.

China’s maritime history is replete with difficulties arising from piracy, so it is perhaps not surprising to see great interest in the subject as reflected in Chinese maritime publications.<sup>34</sup>

Moreover, it is certainly noteworthy that the impetus for the December 2008 counterpiracy deployment of a Chinese naval task force to the Gulf of Aden seems to have originated in part within China’s civil maritime sector.<sup>35</sup> Indeed, piracy has long been a major concern among Chinese maritime analysts. One article on the issue emphasizes the proximity of the problem: “Of the 124 incidents of piracy in 2005, 60% occurred in



Asia's South Sea triangle [in approximately the area of the South China Sea]."<sup>36</sup> Another Chinese analysis of the piracy issue concludes, "The pirates have lots of modern weapons, are equipped with advanced communications equipment, and have secret links with international criminal gangs and even terrorist organizations."<sup>37</sup> Yet another source observes that Chinese vessels in distant waters have also been victimized by pirates.<sup>38</sup> Thus, it would not be surprising to see various Chinese maritime enforcement elements active in future operations against pirates, perhaps acting in tandem with the PLA Navy.

As the primary armed element among China's maritime enforcement dragons, the BCD—frequently referred to as the "China Coast Guard"—might well be expected to take the lead in confronting such challenges. At present, according to the Ningbo Academy study, the BCD has ten thousand personnel—about a quarter of the total of the five dragons.<sup>39</sup> It is also noteworthy that the BCD has been designated as the "lead dragon" in liaison and exchanges with the U.S. Coast Guard—a relationship discussed at length in the fifth part of this study.

#### *The Maritime Safety Administration*

The only dragon that competes in power and prestige with the BCD is the Maritime Safety Administration of the Chinese Ministry of Transportation (交通部下属的海事局及救打捞局). In terms of manpower, the MSA has twice as many personnel as the BCD—about twenty thousand—approximately half of the aggregate of the five maritime enforcement agencies. MSA missions include inspection and registration of Chinese and foreign vessels in Chinese ports, investigation of maritime accidents, the training and certifying of seafarers, supervision of marine traffic control, maintenance of aids to navigation, implementation of domestic and international maritime laws, and maritime search and rescue. There are fourteen regional MSA offices, mainly in the coastal provinces but also at some inland river transport centers, such as along the Yangtze River. Each MSA regional office has a rescue coordination center, and several in coastal provinces have a variety of rescue subcenters.<sup>40</sup>

The author was fortunate enough to visit the Shanghai Rescue Coordination Center (RCC) in November 2007. As befits one of the world's busiest ports, the Shanghai RCC is equipped with modern and fairly well integrated ship-management systems. The Shanghai Port relies on at least eleven major radar stations and two vessel tracking centers in addition to the RCC.<sup>41</sup> These systems are supplemented by the Automatic Identification System (AIS), which, per regulations of the International Maritime Organization, requires vessels of over three hundred tons to report automatically their positions, courses, and speeds in real time.<sup>42</sup> Such systems have revolutionized ship traffic control and dramatically enhanced maritime domain awareness on all the world's oceans but especially along the Chinese coast; a major push has been made to set up AIS receiver/tracking

stations along the entire length of that busy shipping route.<sup>43</sup> A further vessel tracking method employed by Chinese authorities is the China Ship Reporting (CHISREP) system. It requires Chinese-flag vessels to report their positions regularly to a coordination center. Somewhat analogous to the U.S. Coast Guard's Amver (Automated Mutual-Assistance Vessel Rescue) system, which serves as a clearinghouse for merchant vessel positions on a global scale, CHISREP has most obvious significance in the domain of search and rescue, though other applications—for example, pollution control—are quite conceivable. Another important technology on display at the Shanghai RCC during the author's visit was extensive closed-circuit-TV coverage of the port area of the Huangpu River, no doubt improving port management, safety, and security.

Despite this wide variety of mutually reinforcing systems, however, some problems seemed evident, especially in the realm of coordination. For example, Shanghai RCC personnel conceded that while their display screens could easily plot the positions of local MSA assets, they could not readily display those of BCD/China Coast Guard vessels in the same area.

The MSA's important position among China's maritime enforcement dragons is confirmed by evident investments in capital stock—new ships and aircraft. (It is worth emphasizing here that MSA cutters are unarmed—a clear distinction from the USCG and other coast guards around the world.) The launching of the fairly large cutter *Haixun 31* (three thousand tons) in 2004 seems to have heralded a turn toward oceangoing rescue vessels. Though the ship reportedly had problems, particularly with communications equipment, it was noteworthy not only for its size but also as the first MSA vessel to carry an embarked helicopter.<sup>44</sup> A June 2008 deployment of the vessel to patrol China's exclusive economic zone (EEZ) in the East China Sea was covered widely in the Western press.<sup>45</sup> Two successor ships are *Haixun 21* and *Haixun 11*, the latter of which was commissioned in September 2009 and similarly displaces three thousand tons. It appears that *Haixun 11* will be homeported at Weihai, in Shandong Province.<sup>46</sup>

Three additional big, new cutters have been commissioned by the MSA, including *Nanhaijiu 101*, *Nanhaijiu 112*, and *Beijhaijiu 111*. These very large vessels—*Nanhaijiu 101* is listed at 6,257 tons, and all are equipped to carry helicopters—feature a dramatic departure in design from *Haixun 31*. With their very prominent forecastles and superstructures and their extremely low aft decks, they resemble massive tugboats more than their actual equivalents in, for example, the Japanese coast guard. They appear to be equipped with very modern features, including, for example, variable-pitch propellers, which greatly enhance the maneuverability of large vessels. Current MSA doctrine keeps most ships at sea for two weeks, followed by just one day in port to resupply before resuming station. There are apparently two crews per vessel, each crew working two

**Photo 5.** *The large cutter Haixun 11 of the MSA was commissioned in September 2009 in Qingdao. In terms of resources and personnel, the MSA, which is part of the Transportation Ministry, appears to be the most influential among China's civil maritime agencies. (China Defense Forum)*



continuous months on board, then one month ashore. Crew members are thus at sea about eight months per year.<sup>47</sup>

With respect to smaller vessels, another innovative design is featured in the recently launched *Beihaijiu 201*. This small cutter is a high-speed catamaran, modeled on recent

**Photo 6.** *This catamaran, Donghai Jiu 201, serves with the Rescue and Salvage Bureau of the China Maritime Safety Administration. Catamarans are in wide use now as ferries and also with the PLA Navy. (China Defense Forum)*



commercial ferry designs.<sup>48</sup> The MSA has notably lacked small motor surfboats and may have recently purchased some from the United Kingdom.<sup>49</sup> However, attention to smaller cutters is evident in the 2008 launch at Wuhan of a new forty-meter design, optimized for Yangtze River rescue operations.<sup>50</sup>

Progress in airborne rescue assets has been slower. Certainly, Chinese maritime analysts appreciate the crucial role of helicopters for contemporary coast guard duties.<sup>51</sup> The coauthors of the Ningbo Academy study, for example, conclude, "A helicopter operating from a mother ship has enormous value . . . especially in conducting enforcement [operations] in blue water."<sup>52</sup> Nevertheless, airborne search and rescue capabilities are being built essentially from scratch. Though

a series of MSA flight bases were established in 2004, the service does not appear to currently operate many more than a dozen aircraft.<sup>53</sup> Interestingly, the MSA already has a number of Sikorsky helicopters. Some helicopter rescues have reportedly occurred, but night operations are restricted. According to MSA personnel, the biggest bottleneck preventing a major expansion of the MSA flying service is training, of both pilots and rescue swimmers. In both these areas, China has made ambitious proposals involving assistance from the U.S. Coast Guard, but the USCG has been unable to respond so far. To date, PRC coast guard entities have benefited substantially from training assistance by Hong Kong's capable airborne patrol and rescue service. According to an MSA plan announced in early 2003, the goal is to achieve effective search and rescue within fifty miles of the coast with a reaction time of 150 minutes; by 2020 this time is to be improved to less than ninety minutes. The range for search and rescue operations is also to be gradually expanded to cover China's entire exclusive economic zone.<sup>54</sup>

China's maritime rescue service has come a long way in a short time. In 1999, the MSA was faced with a *Titanic*-like tragedy when the ferry *Dashun* went down in bad weather just a few miles offshore in the Yellow Sea. Out of 304 passengers and crew, there were just twenty-two survivors.<sup>55</sup> The accident, a major national tragedy, helped to galvanize efforts to establish a much more vigorous maritime rescue service. As Captain Bernard

**Photo 7.** Search and rescue is a major mission of the MSA and aviation assets are now a development priority for MSA and Chinese civil maritime agencies more generally. However, deck aviation is still a relatively new concept for Chinese civil maritime authorities. (China Defense Forum)



**Photo 8.** A heliborne rescue undertaken by the Maritime Safety Administration. China began to use helicopters in civil maritime rescue operations in 2006. (China Defense Forum)



Moreland, USCG, as a liaison officer at the U.S. embassy in Beijing, wrote in 2007, “Less than 10 years after the *Dashun* tragedy, China has a fully operating professional maritime search and rescue capacity.”<sup>56</sup> Indeed, MSA can point to some concrete achievements, such as reductions over the course of a ten-year plan of maritime accidents by a third and maritime accident fatalities by a quarter. A new rescue network was established along the Yangtze River in 2001.<sup>57</sup> During 2002–2003, the MSA conducted 520 rescue missions, involving 1,303 ship

sorties and 25 aircraft sorties; of 14,901 persons in danger, 13,997 were saved, including 787 foreign nationals.<sup>58</sup>

A key enabler of enhanced professionalism in China’s MSA is its high-quality professional journal, *中国海事* (*China Maritime Affairs*). Of particular note in this journal is the frequent and serious use of the case-study method: accidents are described, dissected, and mined for lessons that can inform future practice.<sup>59</sup> Nor do these cases describe accidents only in Chinese waters; they examine related incidents around the world, such as the recent sinking of an Egyptian ferry in the Red Sea with great loss of life.<sup>60</sup> Additionally, a major emphasis in this journal is on learning from the experiences and procedures of maritime safety and security in other nations.<sup>61</sup>

Other common themes in *China Maritime Affairs* include recently promulgated laws, issues related to toxic spills, typhoon emergency response, newly available technologies, and profiles of service practice in foreign countries.<sup>62</sup> Regarding typhoon response, China has received high marks in recent years for diligent preparedness and execution of emergency plans for dangerous coastal storms.<sup>63</sup> The MSA has played a leading role in establishing Chinese readiness for the cleanup of oil spills. In September 2008 it was announced that China was signing an agreement on mutual support for oil-spill cleanup with Japan, Russia, and South Korea.<sup>64</sup> This agreement followed a December 2007 incident in which the Hong Kong oil tanker *Hebei Spirit* was involved in a major spill off the Korean coastline; Beijing’s Ministry of Transportation dispatched two vessels to assist in the cleanup.<sup>65</sup>

Unlike the BCD, the Maritime Safety Administration does not have a formal academy. The main maritime universities in Dalian, Shanghai, and Xiamen are apparently feeders for MSA recruiting. Compared to equivalent American schools, such as King's Point and the Maine Maritime Academy, these Chinese maritime academic centers seem impressive.<sup>66</sup>

### *The Fisheries Law Enforcement Command (FLEC)*

As have fisheries all over the globe, the Chinese fishing industry has been plagued in the last decade by the environmental devastation wrought by overfishing. While growth in aquaculture has mitigated this crisis to some extent, fishermen all along the Chinese coast have experienced a difficult transition. As one Chinese study recently opined, "The fact is obvious that the development of our nation's fishing industry has reached an extremely important juncture. Most—if not all—of the fisheries have been fully exploited, and many are already exhausted."<sup>67</sup> Another published study further reveals the scope of the problem. Since the 1960s, fish species in the Beibu Gulf area of the South China Sea have declined from 487 to 238. Stock density reached its lowest level in 1998, at just 16.7 percent of that of 1962; fish stocks have recovered somewhat since.<sup>68</sup>

**Photo 9.** FLEC cutter 44183 on patrol. Compared to other maritime enforcement agencies the fisheries enforcement command has not received equivalent resources, at least to this point, and may also be significantly undermanned. The large poster on the ship reads, "Protect National Fisheries Resources." As for many countries, fisheries conservation efforts have proved to be an extremely challenging task for the Chinese government. (China Defense Forum)



**Photo 10.** A Chinese FLEC officer, in cooperation with the U.S. Coast Guard, seized a Chinese fishing vessel suspected of illegal large-scale high-seas drift net fishing in the North Pacific, on September 12, 2008. (USCG Official Photo)



Such conditions have increased pressure on fisheries enforcement institutions and personnel, because of the imperative to enforce new regulations strictly in order to replenish fish stocks. A “zero growth” plan for the fishing fleet was initiated in 1999. By 2004, eight thousand fishing vessels had been scrapped, and there is an effort to bring China’s total fishing fleet down to 192,000 vessels by 2010. Summer moratoriums now exist for almost all of China’s coastal areas.<sup>69</sup> The task is made even more complicated by the extensive overlapping of exclusive economic zones in the western Pacific, not to mention the wide-ranging migratory patterns of regional fish stocks.

With a total haul of seventeen million tons in 2007, China’s fishing take is four times that of the nearest competitor.<sup>70</sup> Official figures suggest that China currently has approximately eight million fishermen. Among finfish, Chinese are largely catching anchovy, Japanese scad, hairtail, and small yellow croaker; nets, line and hooks, and purse seines are used. The East China Sea accounts for the largest catch, followed by the South China Sea, then the Yellow Sea. Of these, only the South China Sea has seen increasing catches of late. China’s marine fisheries and related industries are ranked as the largest sector of the nation’s major marine industries. Guangdong and Shandong are the leading provinces, as measured by fishing output; Fujian and Zhejiang are close behind.<sup>71</sup>

China’s Fisheries Law Enforcement Command (农业部下属的渔政部门), part of the Ministry of Agriculture, apparently has just a thousand personnel.<sup>72</sup> The strategic implications of the state of China’s fisheries enforcement capabilities were suggested in early

2009, when Chinese fishing or fisheries vessels were involved in a variety of international incidents with regional neighbors and the United States.<sup>73</sup> Hints of ineffectiveness and inefficiency are revealed by the Ningbo Academy study, which cites fisheries enforcement as an example of confusion among the five dragons. There is, Professor He Zhonglong and his colleagues assert,

the “got jurisdiction, but cannot find, or can find, but do not have jurisdiction” phenomenon. . . . The fisheries enforcement department has the function of escorting fishing vessels, but because they are unarmed, they lack enforcement deterrence and coercion capabilities, and thus have trouble dealing with situations that suddenly arise. . . .

The public security maritime police, though having the police function, and being equipped with all types of weaponry, possessing an advantage in any circumstances involving escort of fishing vessels, because of limitations on jurisdiction can only play a supporting role, and are in an awkward position. The country’s maritime rights and interests, as well as the national honor, are difficult to protect in such circumstances.<sup>74</sup>

Also important is that in addition to policies encouraging aquaculture, Beijing has in recent years pushed to develop a long-distance fishing fleet. By 2006, this fleet had grown to almost two thousand vessels and was operating on the high seas and in the EEZs of thirty-five countries.<sup>75</sup> The Ningbo Academy study, for example, mentions this development, asserting, “If our country seeks to resolve the food question internally, then it is necessary to exploit the sea’s bounty, through . . . developing the deep sea fishing industry.”<sup>76</sup> Chinese fishing vessels are now a common sight in the waters of Africa and Latin America, for example, a phenomenon that has brought about considerable controversy.

From the Chinese perspective, there has been some question as to how Chinese fishermen can be protected—against, for example, pirate attack—in such distant locations.<sup>77</sup> This question in turn invites maritime analysts to consider whether Chinese maritime enforcement capabilities will expand to a global presence commensurate with the nation’s global maritime commercial interests and how, if so, that would mesh with China’s emerging naval strategy, which has already embraced the counterpiracy mission. An even more sensitive question arises regarding fishing practice proximate to Chinese waters. As stocks have declined around the region, a sense of fisheries nationalism has grown. Indeed, a recent Chinese fisheries analysis concludes, “Although our country has signed one after another fishing agreements with neighboring states, the number of fishing industry security incidents involving foreigners has unceasingly increased. . . . Some [countries] even send warships to bump and sink our side’s fishing boats.”<sup>78</sup> Tensions flared in the summer of 2009 as Chinese maritime enforcement agencies patrolled against foreign violators of strict new fishing regulations in the sensitive South China Sea.<sup>79</sup> If, as has been suggested recently, a major buildup is under way of large, helicopter-capable



cutters for the South China Sea component of the FLEC, Beijing's fishing policies in the region could well become more assertive.<sup>80</sup>

#### *General Administration of Customs (GAC)*

China's status as an international trade juggernaut raises commensurately the prestige of the General Administration of Customs. Indeed, before the establishment of the PRC, China's customs service (managed to a large extent by foreigners) virtually controlled the state's foreign policy. The vast amount of international commerce taking place in China's ports and on its coastal waters preordains the importance of the role of customs in maritime enforcement (海关总署下属的缉私部门). Among the chief missions of China customs are compilation of foreign trade statistics, revenue collection, customs control (declarations, etc.), countermuggling, and port control.<sup>81</sup> The latter two missions are most relevant to maritime enforcement capabilities.

**Photo 11.** *China's Customs Agency operates a fleet of small cutters that focuses on maritime anti-smuggling operations. (China Defense Forum)*



According to the China Customs 2007 annual report, the GAC represents “the competent antismuggling authority of the Chinese government, which takes up most, if not all, of the responsibility for combating smuggling.”<sup>82</sup> The significant smuggling cases prosecuted by the GAC in 2007 were reported to number 1,190, involving more than US\$1 billion, up 4.3 percent from the previous year. Among these cases were some 356 major drug busts, which netted almost five hundred kilograms of assorted illegal drugs.<sup>83</sup> It is not clear what percentage of these interdiction activities occurred in the maritime sphere, but some preliminary evidence suggests that a portion of China's drug trade does take place in seaborne vessels. Thus a 2007 article in the journal of the Fujian Police Senior Academy Journal suggested, “In the last few years, criminals with drugs passing through the port of Xiamen's water transport routes have been using fishing vessels to smuggle drugs.”<sup>84</sup> Similar concerns about maritime drug enforcement have been noted

in Chinese naval publications.<sup>85</sup> The Ningbo Academy study also asserts the importance of the antidrug mission for the future development of China's maritime enforcement capabilities.<sup>86</sup> This is perhaps not surprising, as China customs has been working in coordination with the Ministry of Public Security to form "joint anti-smuggling forces" since 1998.<sup>87</sup>

China customs also plays a leading role in Chinese port management. The GAC is proud that "ocean going imports and exports can usually be released within 24 hours."<sup>88</sup> China's ambitious "E-port" initiative, outlined by the State Council in 2006, aims to smooth out port operations by harnessing information technology—for example, by allowing online payment of taxes and various charges. China customs holds the vice chairmanship of the National E-Port Steering Committee, which also has representatives from the other maritime enforcement dragons, including the BCD and the MSA.

According to the Ningbo Academy study, GAC maritime enforcement personnel number about two thousand. Thus the GAC constitutes one of the smallest dragons, measured by manpower. Interestingly, a June article in a Chinese military newspaper suggested that the GAC has up to 212 fast patrol boats to employ against smugglers, but this figure has been difficult to verify.<sup>89</sup> The 2007 annual report makes note of a recent salary reform, new uniforms, and the establishment of a new institute in Shanghai dedicated to customs issues.

### *The State Oceanographic Administration (SOA)*

With an estimated six to eight thousand personnel, the State Oceanographic Administration—specifically, its China Maritime Surveillance (海洋局下属的中国海监), or CMS—constitutes a maritime enforcement dragon of medium size, between the large MSA and the much smaller customs and fisheries enforcement agencies.<sup>90</sup> Major missions for the SOA include environmental protection, scientific research, and enforcement of EEZ rights and interests.

The rising profile of environmental protection in China has increased attention on coastal environmental issues. The SOA has played an important role in recognizing the extent of current problems. In 2006, a major SOA study concluded that "China faces severe ocean pollution."<sup>91</sup> Some limited progress is already evident—for example, in efforts to set up a comprehensive coastal environmental monitoring system, an initiative to increase compliance among coastal polluters, and a new network of 149 marine protected areas.<sup>92</sup> The 2008 Beijing Olympics seem also to have spurred new interest in improving coastal water quality—in particular, in conjunction with the sailing events at Qingdao; SOA research centers were active in monitoring and forecasting water quality for that prestigious event.<sup>93</sup> Along with curbing the runoff of pollutants discharged from

factories on land, another major concern is coping with spills of oil and other toxic substances, which are carried in Chinese waters in huge quantities.

Corresponding with its mission to patrol China's EEZ, the SOA has a relatively extensive fleet of ships and aircraft. In 2006, it was reported that the SOA itself had twenty-one ships, each displacing between a thousand and four thousand tons.<sup>94</sup> A recent report on the SOA's South China Sea flotilla suggested that this division had eleven ships, six of which reportedly are over a thousand tons in displacement. This South China Sea division of the SOA is said to be equipped with one helicopter and two fixed-wing aircraft.<sup>95</sup> A 2008 report said that the CMS had a total of nine aircraft and more than two hundred patrol vessels.<sup>96</sup> Of late, the SOA has received at least three large new cutters, including *Haijian 46*, *Haijian 51*, and *Haijian 83*. According to a 2009 report, the latter is the SOA's

**Photo 12.** *Haijian 83 is the largest and most advanced cutter of the CMS. The launch of several new cutters for the CMS over the last decade suggests that the CMS has a certain priority among China's maritime enforcement agencies. (China Defense Forum)*



largest cutter, at ninety-eight meters; this 3,400-ton vessel, built at Jiangnan shipyard, is said to have cost about US\$22 million and is assigned a helicopter.<sup>97</sup>

Though the MSA operates some aircraft for search and rescue purposes, the SOA's allotment of aircraft clearly separates it from the other large dragon, the BCD (i.e., the China Coast Guard), which has no aircraft. However, like the BCD, the SOA has recently taken over some retired Chinese navy vessels.<sup>98</sup> Reportedly, *Haijian 20* and *Haijian 32*, which will patrol in the Bohai Sea, are converted PLA Navy subchasers.<sup>99</sup> With respect to the SOA's mission of patrolling China's EEZ, the Ningbo Academy study states bluntly that the agency falls short of requirements: "At this point, maritime enforcement patrol ships are only sufficient to patrol territorial and adjoining sea areas with any frequency, and cannot be responsible for missions within the EEZs or continental shelf areas."<sup>100</sup>

**Photo 13.** A helicopter operated by China Maritime Surveillance. This is a type Z-9 design that is used widely among China's armed forces. (China Defense Forum)



According to another report, the SOA was directed by China's State Council to initiate patrols of the East China Sea in 2006. This elevated surveillance activity apparently involved daily patrols by four aircraft and six ships, operated by the SOA.<sup>101</sup> A 2009 report suggests that the CMS initiated

regular patrols of the southern part of the South China Sea in 2007.<sup>102</sup> In aggregate, the CMS reported, in the period 2001–2007, fifteen thousand instances of illegal activities were detected in China's EEZ, of which about ten thousand were apparently prosecuted. According to one 2006 report, the SOA is already closely collaborating with the China BCD in the Gulf of Tonkin (Beibu Wan) area and is looking to do so elsewhere as well.<sup>103</sup> SOA sources candidly describe close coordination with the Chinese military.<sup>104</sup> Indeed, during a public statement in October 2008, CMS deputy director Sun Shuxian declared that "the [CMS] force will be upgraded to a reserve unit under the navy, a move which will make it better armed during patrols. . . . [T]he current defensive strength of CMS is inadequate."<sup>105</sup> A similar message emerges from a September 2009 Chinese report that documented multiple interactions between the SOA and American surveillance vessels.

**Photo 14.** A Y-12 aircraft of the CMS. It seems China's civil maritime agencies are generally lacking in sufficient numbers of fixed-wing aircraft, inhibiting long-range search and rescue operations, for example. That the CMS operates fixed-wing aircraft is again symbolic of the priority that the CMS enjoys among the civil maritime authorities. (China Defense Forum)



This report suggested that SOA vessels required better sensors and electronic warfare technology to cope with U.S. military surveillance craft.<sup>106</sup>

In addition, the SOA is leading China's oceanographic research effort. According to the official SOA website, the agency has no fewer than sixteen discrete research centers and institutes. The agency is a major funder of research projects at China Ocean University in Qingdao and likely many other university centers as well. In 2005, a SOA research vessel capable of drilling cores from the sea bottom at depths in excess of three thousand meters circumnavigated the globe to advance China's oceanographic research across the world's oceans. The SOA has also launched a series of maritime observation satellites. China's recent mission to Antarctica to establish its third base there was organized by the SOA, demonstrating the ambitious research agenda that the agency pursues.<sup>107</sup>

### The Sixth and Mightiest Dragon? The Chinese Coast Guard and the Chinese Navy

Among coast guard-like entities, it is natural and proper to consider how roles and missions, not to mention resources, are allocated between coast guard forces, on the one hand, and navies, on the other. Sea-power theorist Geoffrey Till explains that although overlap is inevitable and logical, there is a spectrum of coast guard models, entailing different kinds of relationships with national navies. Till observes, "With the widening of the concept of security, accelerated perhaps by the events of 11 September, the extent

**Photo 15.** A buoy tender of the MSA operates in close proximity to two PLA Navy vessels. Maintaining aids to navigation along China's busy coasts is a major mission of the MSA. (China Defense Forum)



of potential overlap is increasing in ways which raise issues over who should be responsible for what.” As he further explains, some countries have navies and coast guards with dramatically separate tasks, while in other countries (often smaller or less developed ones) the navies themselves have functioned essentially as coast guards, active principally in coastal patrol, management, and search and rescue missions.<sup>108</sup>

Chinese analysts have duly noted that some coast guards, including the USCG, have been critically involved in national security. One Chinese maritime analyst, for example, notes that Japan’s powerful coast guard serves as a vital reserve force for the Japanese navy.<sup>109</sup> As the authors of the Ningbo Academy study observe, “The United States explicitly calls its Coast Guard one of the five armed services, many times employing it for combat missions.”<sup>110</sup> The same analysts are quite candid in projecting an important role for China’s coast guard entities in any future military conflict: “In wartime, under the command of the navy, [China’s coast guard elements] would escort maritime transport, would assist in controlling maritime transport and also with amphibious ships, execute antisubmarine missions, protect ports, secure wharves, provide crews for some portion of the navy’s fleet and assist in completing national mobilization.”<sup>111</sup>

An expert analyst from China’s National Defense University argued in June 2009 that large Chinese coast guard cutters could be easily converted for use in far-seas combat, while small- and medium-sized coast guard vessels could support coastal defense, undertaking such missions as laying defensive minefields.<sup>112</sup> Captain Moreland likewise suggests, “Both China Coast Guard and the U.S. Coast Guard are maritime armed forces that lie outside their countries’ respective defense departments or ministries, but are available to them for waging war.”<sup>113</sup> It is, accordingly, perhaps not surprising to see elements of the Chinese maritime enforcement community taking a hard line on sovereignty and maritime claims issues: “Taiwan is in most respects still dominated by a few foreign powers. . . . [F]rom this perspective, Taiwan island forms the strategic core deciding the future fate of the Chinese nation. . . . On the sea, there are many neighboring countries that have island and ocean territorial disputes with China. These contradictions are relatively extensive, and this has a major impact on room for maneuver in Chinese politics, foreign policy and military affairs.”<sup>114</sup>

Nevertheless, it would be a mistake to see China’s developing coast guard entities as simple adjuncts to the PLA Navy. A cosmopolitan outlook is strongly evident in the Ningbo Academy study: “The initiation of armed conflict[, or even limited war, would severely impact the whole region and international system, and does not conform to the nation’s circumstances of development.”<sup>115</sup> Moreover, the Ningbo Academy is part of the BCD, one of a few armed elements among China’s coast guard entities; one might logically presume the unarmed elements (e.g., the powerful MSA) to be less inclined to quasi-military activities. Also evident in the Ningbo Academy study is a sense that coast

guard entities may actually be in competition with the Chinese navy for resources. These scholars, for example, observe with evident frustration that “internally, many scholars believe that maritime power means maritime military power, and maritime military power means the navy.”<sup>116</sup>

A crucial question arises as to what the disposition of the Chinese navy, and the PLA more generally, will be toward improving maritime enforcement capabilities. Preliminary evidence, in the form of an article in the June 2008 issue of the official and prestigious 中国军事科学 (*China Military Science*), suggests that the PLA will support this endeavor; its author, from the Chinese National Defense University, emphatically calls for stronger maritime enforcement capabilities as a crucial component of a new Chinese maritime strategy.<sup>117</sup> In July 2009, a significant search and rescue exercise was undertaken in the vicinity of the Pearl River Delta. The co-organizers were the PLAN’s South Sea Fleet and the Guangdong provincial government. Thirteen agencies, twenty-five vessels, and two helicopters took part in the exercise, which was termed a “立体军警民” (three-dimensional—that is, military, coast guard, and civilian) exercise. A Navy

**Photo 16.** In July 2009, the first-ever major search and rescue exercise involving significant naval units and civil maritime entities (twenty-five vessels and thirteen agencies) reportedly took place in the Pearl River Delta of southern China. (*Modern Navy*)



publication describing the exercise notes that China has set up a new and robust search and rescue system but laments that the military regions are not well integrated into that structure—a problem suggesting the need for further such exercises.<sup>118</sup>

Reconsidering Till’s two alternative models—wide bifurcation or extensive overlap—it is worth noting that China has clearly emerged from the latter tradition. For much of the Cold War, its navy was not much more than an elaborate coast guard. Today, more bifurcation is occurring as China’s navy emphasizes technology-intensive warfare. Nonetheless, the PLA is also increasingly interested in issues that have often concerned coast guards, including search and rescue, environmental protection, and piracy, suggesting that a strict bifurcation of roles is simply not practical for China in the near or medium term.<sup>119</sup>

## Explaining the Weakness of China's Maritime Enforcement Capabilities

This study has given priority to offering an objective and detailed rendering of the current statuses of various Chinese coast guard entities, primarily because no such rendering yet exists in the English language. Still, it is important to lay a foundation for explaining the central phenomenon at issue: China's relative weakness in coast guard capacities. Three related explanations are examined below: modernization processes, economic issues, and finally, institutional structural issues. No doubt these differ-

**Photo 17.** *China Rescue and Salvage Bureau of the MSA accepted two Eurocopter EC225s into service in 2007. Further development of aviation forces by China's civil maritime agencies appears to be a priority. (China Defense Forum)*



ent explanations have complex linkages; for example, economic and institutional structural issues are clearly results of modernization processes. Still, there is value in focusing on different segments of the various causal links.

A recent and extremely helpful article by Richard Suttmeier titled "China, Safety, and the Management of Risks" explains

that conventional wisdom posits a strong relationship between modernity and safety. He writes, "The wealth and power expected from 'modernization' have long been seen in China—and elsewhere—as risk-reducing, safety-enhancing developments."<sup>120</sup> Wealth and education can bring about China's "sixth modernization"—enabling Beijing "to manage environmental and technological risk."<sup>121</sup> Suttmeier's analysis looks at the example of civil aviation in China, suggesting that "China's performance on safety issues . . . attracted and maintained high-level political and managerial attention . . . which permitted the introduction of redundancy."<sup>122</sup> The essential argument here, then, is that China's coast guard entities could not function effectively until China became a modern society; until then, it simply lacked the wherewithal. Besides, many other demands took precedence, not least economic and political survival—which, at certain points during the "Century of Humiliation" and the Cold War, could not be taken for granted. Having secured China from existential threats and moved it out of poverty, Beijing can now turn to such previously second-order priorities as effective maritime governance and even the relatively new concept of valuing individual lives. However, Suttmeier does ask the provocative question of whether the "sixth modernization" can proceed without



further political liberalization that would support “transparency in China’s risk management strategies” by empowering “activist civil organizations that have autonomy and . . . resources.”<sup>123</sup>

An alternative explanation that prioritizes economic factors in particular may be more amenable to Beijing’s current mode of thinking. Suttmeier calls for a “science-based regulatory regime that is also sensitive to market forces.”<sup>124</sup> He explains: “China needs multiple mechanisms of risk management and governance that address the incentives and disincentives operating on individual economic decision-makers.”<sup>125</sup> According to this view, order in China’s coastal waters is simply a requirement of the rapidly developing coastal economy. Powerful corporate entities are demanding the orderly management of ports and the safe, reliable passage of ships (and of the goods they carry). Maritime disasters like the *Dashun* ferry tragedy in 1999 injured not only the victims and national pride but also business as well, and it reflected poorly on Chinese technical quality and organizational efficiency. The safety-and-security culture in China may flow from corporate entities outward. Suttmeier highlights the important contributions of increasingly sophisticated Chinese insurance markets;<sup>126</sup> coast guard improvements may be seen as a new form of insurance for the massive investments made in China’s maritime trade.

A final explanation has been a recurrent theme of this paper and is the central theme of the important Ningbo Academy study of 2007—that the balkanization of maritime enforcement entities in China has severely inhibited the coherent development of Chinese coast guard entities.<sup>127</sup> The dragons duplicate one another in certain functions, fail to

**Photo 18.** *Two small cutters from the MSA (foreground and right), are shown berthed across from a cutter from the FLEC. There is some coordination among Chinese civil maritime authorities, but it is also clear that Chinese maritime analysts perceive some problems in getting the disparate agencies involved to work in concert to serve China’s maritime interests. (China Defense Forum)*



coordinate effectively in others, and are individually too weak to achieve fundamental breakthroughs in maritime governance—for example, in long-range search and rescue. Suttmeier addresses this problem, noting that “responsibility for regulation is often fragmented with the result that no one agency in the central government has control. . . . Effective coordination among central government agencies, and between the central government and local governments, has long been recognized as a key problem of governance in a rapidly changing China.”<sup>128</sup> Indeed, a considerable problem within China’s coast guard entities (for example, the MSA) is that local entities are often more powerful than the center in terms of resources, a situation promoting further balkanization, inconsistency, and incoherence.<sup>129</sup>

In sum, modernization and economic explanations give considerable reason for optimism. Nevertheless, coast guard modernization in China is likely to continue to be slowed by failures related to a lack, first, of entities in civil society charged with keeping Chinese maritime governance structures honest, and also, more important, of a pervasive disunity of effort.

### A Case Study in Cooperative Maritime Security

Notwithstanding that most coast guards have intricate and special relationships with the naval forces of their nations, they are uniquely positioned to spearhead a cooperative maritime security agenda. This is because coast guards confront a panoply of challenges of concern to all states with maritime interests. Indeed, many of those

**Photo 19.** Captain Bernard Moreland, former U.S. Coast Guard liaison officer posted to the U.S. embassy in Beijing, participates in a professional dialogue with members of the China Coast Guard during a visit to their academy in Ningbo. The designation of an O6 level billet by the U.S. Coast Guard to the Beijing embassy is a signal of Washington’s desire to enhance bilateral maritime cooperation. (USCG Official Photo)



challenges cannot be met without robust international cooperation. In that light, it is instructive to consider the cooperation between the U.S. Coast Guard and Chinese coast guard entities that has blossomed over the last decade, while navy-to-navy contacts have remained rather limited.

**Photo 20.** Coast Guard Vice Admiral Charles D. Wurster, serving then as Pacific Area Commander, presents Director-General Chen Aiping of the China MSA with a commemorative plaque honoring the U.S. Coast Guard and China MSA on 4 April 2008 in Alameda, California. The USCG and China MSA have engaged in quite extensive exchanges and other forms of cooperation. (USCG Official Photo)



Search and rescue cooperation has been quite successful—an achievement that can be measured in lives saved. In 2007, the USCG's Amver reporting system, which assists in rescue coordination across the globe by exchanging data on participating vessels near ships in distress, proved crucial to major rescues of Chinese sailors on two occasions. In March, *Unicorn Ace*, with a crew of nineteen Chinese citizens, sank in the South China Sea. The Hong Kong Rescue Service, querying the USCG Amver system, identified and vectored in a nearby freighter, which rescued eleven of the crew. Even more dramatically, in July the vessel *Haitong 7*, crewed by twenty-

two Chinese nationals and carrying lumber from New Guinea to Dalian, was caught in a typhoon three hundred miles northwest of Guam and sank; the survivors were

**Photo 21.** The crew from the U.S. Coast Guard Cutter *Boutwell* trains with the China Coast Guard in Shanghai during August 2007. *Boutwell* visited China as U.S. Coast Guard representatives for the North Pacific Coast Guard Forum. This forum was developed to increase international maritime safety and security in the North Pacific and has evolved to become the most developed international organization focused on maritime security in the vital East Asian region. (U.S. Coast Guard photo)



**Photo 22.** The 378-foot Coast Guard Cutter *Rush*, homeported in Honolulu, Hawaii, arrives in Shanghai on 1 November 2009. The crew of *Rush* was in China to engage in maritime partnerships and cultural exchanges. The U.S. Coast Guard has built significant goodwill with Chinese maritime agencies, potentially building the basis for a more extensive maritime partnership between the United States and China. (USCG Official Photo)



scattered across a thousand miles of ocean. Again, merchant vessels alerted by the Amver system were crucial to the rescue, as were two U.S. Navy P-3 aircraft and two USCG cutters. American rescuers coordinated closely with Chinese rescue authorities, receiving from them information that aided the rescue plan. Thirteen of the Chinese sailors were eventually saved. Few aspects of maritime cooperation can be so powerfully symbolic for building vital trust and cooperation as mutual aid to sailors in distress.<sup>130</sup>

Another area of fruitful cooperation has been in the area of high-seas fisheries. In particular, the USCG and the Chinese FLEC have developed a major innovation to help enforce a United Nations General Assembly resolution prohibiting drift net fishing on the high seas. Their approach involves the temporary posting of FLEC officials aboard U.S. cutters patrolling the North Pacific. For example, a FLEC “ship rider” boarded the USCGC *Boutwell* (WHEC 719) in August 2007. In one notable case, a fishing boat suspected of using drift nets initially claimed Chinese registry and refused to submit to an inspection by a *Boutwell* boarding team. The FLEC ship rider, however, had both the jurisdiction and skills to inspect the vessel and detain the ship. The FLEC then sortied *Yu Zheng 118* from Yantai on a long journey to rendezvous with *Boutwell* and take custody of the offending vessel and crew. This pattern was repeated six more times in 2007, during which process “international enforcement cooperation resulted as the mechanisms finally fell into place for exchanging operational intelligence and plans.”<sup>131</sup> One can quite easily imagine a wide spectrum of similar environmental initiatives that would benefit from creative U.S.-China cooperation, including many in the maritime dimension.

**Photo 23.** Chinese coast guard cadets drill aboard USCG cutter Eagle in the Atlantic during August 2009. Second Lieutenant Dun Mao, from Changsha in Hunan Province, of the Chinese Public Security Marine Police Academy, gets help from classmates to don a survival suit. The four Chinese cadets and one officer spent three weeks in America, training with different Coast Guard units. In 2010, cadets from the U.S. Coast Guard Academy are scheduled to go to China to train with its Public Security Marine Police Academy. (USCG Official Photo)



Yet another vital area of maritime cooperation concerns port security and flag-state rights. China has been a leading player in the Container Security Initiative (CSI), an effort to ensure that the huge numbers of containers entering U.S. ports each year cannot be used to transport terrorists or, in the worst case, a weapon of mass destruction. Teams of USCG experts frequently visit Chinese ports to discuss requirements and exchange security practices. Reciprocal visits are made to American ports by delegations from the Chinese Ministry of Transportation. USCG personnel are also frequent visitors to Chinese shipyards, as they must certify repairs made on U.S.-flagged vessels. Similarly, the China Classification Society now maintains offices in the United States and visits American ports to inspect Chinese-flag vessels.<sup>132</sup> Given the huge amount of U.S.-China shipborne commerce, it is perhaps not surprising that this form of maritime cooperation is both broad and deep, entailing the regular posting of each country's officials in the major ports of the other. It is well worth considering how this practical, grassroots cooperation might serve the larger cause of maritime security in the Asia-Pacific region.

While the progress in bilateral coast guard cooperation is impressive, there are nevertheless real constraints and challenges that inhibit further expansion of the relationship. Most obviously, there are the coordination difficulties that result from the fact

that there is no single counterpart for the USCG on the Chinese side but rather a group of often-competing institutions. An additional major problem concerns USCG resources, since the organization is not primarily tasked with conducting international engagement. Moreover, the small resources that the USCG does have for international activities tend to be absorbed by initiatives related to the global war on terror. A third complication is that the two nations have somewhat different priorities when it comes to maritime governance: Washington has prioritized the counterterrorism mission since the 9/11 attacks, but Beijing continues to give first place to sovereignty issues. Nevertheless, the USCG has led the way in developing U.S.-China maritime cooperation, by “look[ing] for areas where China wants what the United States wants. Negotiating how to execute a mutual interest takes far less resources than an adversarial negotiation to find a middle ground.”<sup>133</sup> Contrary to conventional wisdom, moreover, it is quite possible that cooperation between American and Chinese law-enforcement entities could actually increase Beijing’s respect for human-rights norms.<sup>134</sup> One high-value program for the Chinese Maritime Police has arisen from the willingness of the USCG to allow Chinese trainees into its Cadet Summer Program. Chinese students are still not able to attend the full U.S. Coast Guard Academy course, but such exchanges should be expanded further and reciprocated with American students in Chinese maritime enforcement institutions. Faculty exchanges could also help in this important area of bilateral cooperation. Given the clear priority of international cooperation in the new U.S. maritime strategy, the leadership of the U.S. Navy would do well to study the recent USCG experience with China to see how enhanced cooperation could serve the larger cause of Asia-Pacific maritime security.<sup>135</sup>

### **Future Prospects and Strategic Implications**

The 2007 Ningbo Academy study, discussed at length in this analysis, forms an important window into the current thinking and evident frustration of those charged with contemporary Chinese maritime governance. The authors of that study make a strong case that “our current maritime law enforcement forces . . . are not commensurate with our status and image as a great power. . . . Unification of maritime enforcement agencies would strengthen our flexibility in maritime conflicts[,] . . . exert pressure on Taiwan separatists . . . and would not damage the nation’s strategic opportunity at the beginning of the twenty-first century.”<sup>136</sup>

Still, the solution of unifying the various maritime enforcement dragons seems to remain largely theoretical at this point. The MSA, largest of the maritime enforcement agencies by far, could be a logical leader, but others have promoted the SOA because of its broader strategic vision. There is little clarity regarding the way forward.<sup>137</sup> Even the BCD authors of the Ningbo Academy study ask pointedly, “Who will lead?”<sup>138</sup>

**Photo 24.** Nanhai Jiu 113 of the Rescue and Salvage Bureau of the MSA will serve off the coast of southern China and is one of several new vessels that the MSA has developed in the last decade. (*China Defense Forum*)



At least three possible strategic implications can be drawn from the foregoing analysis. Most obviously, stronger Chinese coast guard entities will no doubt serve to strengthen China's extensive maritime claims. More and better ships and aircraft at Beijing's disposal will likely increase its confidence in maritime disputes with its neighbors. As stated clearly in the Ningbo Academy study, China will continue to "build up its military maritime power, developing the power to safeguard its national territorial and maritime rights and interests."<sup>139</sup> Yet there is also the practical consideration that "relying on the navy . . . makes it easier for certain other countries to use the excuse of 'the China threat theory.'"<sup>140</sup>

A second major implication is that stronger Chinese coast guard entities are likely to give further impetus to China's rapidly growing "soft power" both in the Asia-Pacific and around the globe. Thus, in June 2008, the Ningbo Academy hosted a maritime law enforcement workshop for forty-two senior maritime officials from Asia and Africa.<sup>141</sup> Such activities are likely to grow in size and scope in future decades, ultimately reaching a level more in line with China's major role in international maritime commerce.<sup>142</sup> No doubt, rescuing sailors from foreign (and often neighboring) nations helps to burnish China's emerging prestige in the arena of maritime safety and security.<sup>143</sup>

**Photo 25.** Fisheries Law Enforcement Command vessel 311 exercises with other FLEC vessels. FLEC 311 is China's largest fisheries management vessel and was dispatched to patrol the South China Sea when tensions arose in the area during mid-2009. It is expected that the FLEC will receive additional large cutters in the near future. FLEC 311 served formerly with the PLA Navy. (China Defense Forum)



A third strategic implication may be even more important—that coast guards represent a distinctively different form of power than do navies. As explained by the authors of the Ningbo Academy study, “Naturally, in the course of the struggle for national interests, contradictions are inevitable. The real question is what means are used to settle these disputes. Giving full play to the government’s capabilities, deploying the navy cautiously and strenuously trying to limit the conflict’s scope to among the civil maritime authorities, can avoid a resort to escalation of the crisis.”

Thus, the Ningbo coauthors articulate a vision of coast guards serving as a kind buffer between states in crisis, forestalling the intensification of crises that can result from rapid naval deployments. Similarly, a Chinese military analyst wrote in June 2008 that coast guard involvement would not complicate crises in the same way that direct navy involvement might.<sup>144</sup> Geoffrey Till also makes this point in his classic treatise on contemporary sea power: “Coastguard ships are often more acceptable politically. . . . [T]he involvement of grey-painted warships is often seen as unhelpfully escalatory.”<sup>145</sup> To be sure, this is an encouraging line of reasoning. The same Chinese analysts also highlight



Deng Xiaoping's prescription to "maintain sovereignty, but shelve rivalry, and pursue joint development." For them, Deng's formulation represents a new way for China to act as a responsible great power that seeks peaceful resolution of maritime disputes.<sup>146</sup> Such reasoning and stronger and more coherent Chinese coast guard capabilities generally make more feasible the realization of China's emergence as a "responsible maritime stakeholder" in the twenty-first century.

## Notes

1. Tara Bahrapour and Philip Pan, "U.S. Military Ship Delivers Aid to Georgia," *Washington Post*, 28 August 2008, p. A14.
2. "Japan Says 'Spy Ship' Fired Rockets," BBC, 25 December 2001, news.bbc.co.uk/1/hi/world/asia-pacific/1727867.stm.
3. "Japan Admits Coast Guard 'Partially at Fault' in Fishing Boat Sinking," *Weekly Japan Update*, 20 June 2008, www.japanupdate.com/?id=8741.
4. Vivex Raghuvanshi, "Indian Coast Guard to Buy Six New Aircraft," *Defense News*, 29 September 2008, p. 30.
5. Choe Sang-hun, "Desolate Dots in the Sea Stir Deep Emotions as South Korea Resists a Japanese Claim," *New York Times*, 31 August 2008.
6. Richard J. Samuelson, "New Fighting Power: Japan's Growing Maritime Capabilities and East Asian Security," *International Security* 32, no. 3 (Winter 2007/08), pp. 84–112.
7. M. Taylor Fravel, "Securing Borders: China's Doctrine and Force Structure for Frontier Defense," *Journal of Strategic Studies* 30, nos. 4–5 (August–October 2007), p. 709.
8. Some of the most important books written about Chinese naval development include Bruce Swanson, *Eighth Voyage of the Dragon: A History of China's Quest for Seapower* (Annapolis, Md.: Naval Institute Press, 1982); John Wilson Lewis and Xue Litai, *China's Strategic Seapower: The Politics of Force Modernization in the Nuclear Age* (Stanford, Calif.: Stanford Univ. Press, 1994); Bernard D. Cole, *The Great Wall at Sea: China's Navy Enters the 21st Century* (Annapolis, Md.: Naval Institute Press, 2001); and Andrew S. Erickson, Lyle J. Goldstein, William S. Murray, and Andrew R. Wilson, *China's Future Nuclear Submarine Force* (Annapolis, Md.: Naval Institute Press, 2007). Some government reports are also useful, especially Ronald O'Rourke, *China's Naval Modernization: Implications for U.S. Navy Capabilities: Background and Issues for Congress*, Report for Congress, Order Code RL33153 (Washington, D.C.: Congressional Research Service, 18 November 2005) (this report has been updated continuously in recent years); and U.S. Navy Dept., *China's Navy 2007* (Suitland, Md.: Office of Naval Intelligence, 2007).
9. A laudable effort to understand China's approach to nontraditional security issues is Susan L. Craig, *Chinese Perceptions of Traditional and Nontraditional Security Threats* (Carlisle, Pa.: U.S. Army War College, 2007). However, this effort does not discuss the Chinese coast guard, or maritime security issues generally.
10. This term is employed to describe the major function of coast guards in Geoffrey Till, *Seapower: A Guide for the Twenty-first Century* (London: Frank Cass, 2004), p. 333.
11. It is worth noting that the problem of competing bureaucracies in the maritime domain is not unique to China. Even in the United States, Customs and Border Protection, National Marine Fisheries Service, and National Oceanic and Atmospheric Administration also operate vessels, for coastal management and research. However, the primary difference is that the U.S. Coast Guard clearly functions as the nation's "center of gravity" for maritime policy and enforcement. For a detailed discussion of the organizational differences, see Bernard Moreland [Capt., USCG], "U.S.–China Civil Maritime Engagement" (draft paper, Third Annual Conference of the China Maritime Studies Institute, U.S. Naval War College, Newport, R.I., 6 December 2007), pp. 1–2.
12. Samuelson, "New Fighting Power," pp. 99–102. This analysis reveals the impressive capabilities of the Japan Coast Guard but also some of its distinct limits (e.g., in antisubmarine warfare and the projection of power ashore).
13. 何忠龙, 任兴平, 冯水利, 罗宪芬, 刘景鸿 [He Zhonglong, Ren Xingping, Feng Shuili, Luo Xianfen, and Liu Jinghong], 中国海岸警卫队组建研究 [Research on the Building of the Chinese Coast Guard] (Beijing: Ocean Press, 2007). The importance of this book is reinforced by the fact that a large number of articles by the same or nearly the same authors have appeared in a wide variety of civil and military maritime

- professional journals on the subject of Chinese coast guard development. For example, the following articles were published in the journal of the State Oceanographic Administration: 何忠龙, 任兴平, 冯水利 [He Zhonglong, Ren Xingping, and Feng Shuili], “我国海上综合执法的特点及对策” [Our Country’s Comprehensive Maritime Enforcement: Characteristics and Solutions], 海洋开发与管理 [Ocean Development and Management] 25, no. 1 (2008), pp. 100–102; and 何忠龙, 任兴平, 冯永利 [He Zhonglong, Ren Xingping, and Feng Yongli], “我国海岸警卫队组建模式探讨” [Inquiry into Building Our National Coast Guard], 海洋开发与管理 [Ocean Development and Management] (June 2006), pp. 112–13. This is particularly significant, insofar as it means that thinkers in agencies in the Chinese government are reaching outside their organizations and speaking to a broader community of maritime policy makers. Additional articles by this research team include 何忠龙, 任兴平, 冯永利 [He Zhonglong, Ren Xingping, and Feng Yongli], “组建中国海岸警卫队初探” [Preliminary Study of the Creation of a Chinese Coast Guard], 军事学术 [Military Art] (November 2006), pp. 52–53; and 何忠龙, 赵久利, 任兴平 [He Zhonglong, Zhao Jiuli, and Ren Xingping], “中国海岸警卫队兵力部署综合评价指标体系研究” [Study on the Comprehensive Index System for Evaluating the Troop Disposition of Chinese Coast Guard], 装备指挥技术学院学报 [Journal of the Academy of Equipment Command and Technology] (December 2006), pp. 1–5.
14. Another symptom of Beijing’s bureaucratic challenge related to China’s maritime frontier was the May 2009 announcement that a new Department of Boundary and Ocean Affairs was being set up within the foreign ministry. This move would seem to reflect a broader perception that China has lacked for an authoritative, lead agency with both the technical capacity and the authority to clarify Beijing’s positions regarding maritime boundaries. See “New Chinese Government Agency to Manage Land, Maritime Disputes,” Kyodo World Service, 5 May 2009.
  15. He Zhonglong et al., *Research on the Building of the Chinese Coast Guard*, p. 69.
  16. *Ibid.*, p. 145.
  17. *Ibid.*, p. 3.
  18. See, for example, 白俊丰 [Bai Junfeng], “中国海洋警察建设构想” [Conception Regarding the Building of China’s Maritime Police], 海洋管理 [Maritime Management] (March 2006), p. 35.
  19. 李培志 [Li Peizhi], 美国海岸警卫队 [The United States Coast Guard] (Beijing: Social Science Academic, 2005), is an authoritative Chinese study of the U.S. Coast Guard. On the Japan Coast Guard, see, for example, 方新洲 [Fang Xinzhou], “日本海上保安厅概览” [An Overview of Japan’s Maritime Security Agency], 海事大观 [Maritime Spectacle] (May 2005), pp. 33–37; 侯建军 [Hou Jianjun], “日本第二支海上力量: 海上保安厅” [Japan’s Second Maritime Force: The Maritime Security Agency], 舰船知识 [Naval and Merchant Ships] (October 2006), pp. 24–28; and 间舞 [Jian Wu], “专盯钓鱼岛的日本海上保安厅第11管区” [The Japan Maritime Security Agency’s 11th District: Focused on the Diaoyu Islands], 环球军事 [Global Military Affairs] (July 2008), pp. 14–17.
  20. Discussions with MSA- and SOA-affiliated personnel, Qingdao, April 2008.
  21. He Zhonglong et al., *Research on the Building of the Chinese Coast Guard*, p. 36.
  22. *Ibid.*, p. 142. This compilation of statistics shows Chinese capacities in a more favorable light when calculating ship numbers and tonnage per square kilometer of water in the exclusive economic zone.
  23. *Ibid.*, p. 26.
  24. *Ibid.*, p. 14.
  25. *Ibid.*, p. 13.
  26. *Ibid.*, p. 14.
  27. Bai Junfeng, “Conception Regarding the Building of China’s Maritime Police,” p. 38.
  28. He Zhonglong et al., *Research on the Building of the Chinese Coast Guard*, p. 4.
  29. *Ibid.*, p. 37.
  30. This information is mostly derived from 陈光文 [Chen Guangwen], “中国海上警备力量” [China’s Coast Guard Capabilities], 兵器知识 [Ordinance Knowledge] (May 2009), pp. 50–51. See the “List of China Coast Guard Vessels” on the website of *China Defense Today*, [www.sinodefense.com/navy/coastguard/ship.asp](http://www.sinodefense.com/navy/coastguard/ship.asp). A total of nine types of patrol boats are listed on this website as serving the Maritime Police.
  31. Interviews, Beijing, April 2008.
  32. He Zhonglong et al., *Research on the Building of the Chinese Coast Guard*, p. 57. Terrorism is also cited as a concern for China’s future coast guard in Bai Junfeng, “Conception Regarding the Building of China’s Maritime Police,” p. 36.
  33. 烽火 [Feng Huo], “海上保安战: 近海反恐与安全战术” [The Battle for Maritime Security: Tactics for Littoral Counterterrorism and Security], 现代舰船 [Modern Ships] (June 2008), p. 20.
  34. See, for example, “话说海盗” [About Piracy], 中国海事 [China Maritime Affairs] (November

- 2006), pp. 63–65; “海盗: 国际航运的难去之痒” [Piracy: A Disruption of International Shipping That Is Difficult to Eliminate], 中国船检 [China Ship Survey] (May 2006), pp. 48–50; and 刘少才 [Liu Shaocai], “马六甲海峡死抗海盗” [Deadly Pirates of the Malacca Strait], 中国海事 [China Maritime Affairs] (October 2007), pp. 66–68. See also Bruce A. Elleman, Andrew Forbes, and David Rosenberg, eds., *Piracy and Maritime Crime: Historical and Modern Case Studies*, Newport Paper 35 (Newport, R.I.: Naval War College Press), esp. chaps. 3–5.
35. “交通部国际合作司长透露海军护航决策由来” [Head of International Cooperation Department of Ministry of Transportation Reveals Origins of Decision on Naval Escort], 三联生活周刊 [Sanlian Life Weekly], 16 January 2009. Prof. Nan Li of the U.S. Naval War College identified this source and noted the importance of this information.
  36. 杨翠柏 [Yang Cuibai], “亚洲打击海盗及武装抢劫船只的地区合作协定评价” [Evaluation of the Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia], 南洋问题研究 [South East Asian Affairs], no. 4 (2006), p. 29.
  37. 吴尉青 [Wu Weiqing], “浅谈如何预防盗劫” [A Simple Discussion on Prevention of Pirate Attacks], 中国水运 [China Water Transport] 7 (June 2007), p. 183.
  38. 吕贤臣 [Lu Xianchen], “现代海盗的威胁和防范” [The Threat and Precautions against Modern Pirates], 现代舰船 [Modern Ships] (October 2006), pp. 26–29.
  39. He Zhonglong et al., *Research on the Building of the Chinese Coast Guard*, p. 37.
  40. “‘十五’海事成果辉煌和谐发展还看今朝” [Great Maritime Achievements during the Time of the Tenth Five-Year Plan and Harmonious Development Now and in the Future], 中国海事 [China Maritime Affairs] (January 2006), p. 11.
  41. Shanghai MSA (Shanghai: 2005), p. 13.
  42. For discussion of AIS integration in China, see, for example, 陆悦铭, 周懿宗 [Lu Yueming and Zhou Yicong], “关于国轮在设置, 使用AIS设备中存在的问题和一些思考” [Some Issues and Considerations Related to the Carrying and Use of AIS Equipment aboard Chinese Ships], 中国海事 [China Maritime Affairs] (July 2006), pp. 35–37; 张哲, 卢言朋, 邓霞 [Zhang Zhe, Lu Yanpeng, and Deng Xia], “关于我国进行远距离AIS信息探测的研究” [Study on the Detection of Long-Range AIS Message Traffic in China], 中国海事 [China Maritime Affairs] (December 2007), pp. 52–55; and 赵海波, 张英俊 [Zhao Haibo and Zhang Yingjun], “中国北方海区AIS应用研究” [Study on the Application of AIS in the Northern Sea Region of China], 大连海事大学学报 [Journal of Dalian Maritime University] 33 (December 2007), pp. 81–86.
  43. Shanghai MSA director, interview, November 2007.
  44. 程彪 [Cheng Biao], “海巡31号船通导设备安装调试问题的分析及解决方案” [Analysis and Resolution of the Equipment Debugging aboard the Vessel Haixun 31, a Pathbreaking Project for the Communications Ministry], 广船科技 [Guangdong Shipbuilding Science and Technology] (February 2005), p. 88.
  45. See “China Sends Patrol Fleet to East China Sea,” 中国网 [China Net], 1 July 2008, www.china.org.cn/china/national/2008-07/01/content\_15915452.htm.
  46. 林红梅 [Lin Hongmei], “我国最大最先进的海事巡视船‘海巡11’列编” [Our Country’s Largest and Most Advanced Maritime Patrol Ship “Haixun 11” Joins the Fleet], Xinhua, 28 September 2009.
  47. Interviews, Beijing, April 2009.
  48. Incidentally, the design of this catamaran is very similar to that of the PLA Navy’s Type 022 fast attack craft—one of the few surface vessels that has entered serial production with the Chinese navy.
  49. Capt. Bernard Moreland, USCG (USCG liaison officer, U.S. Embassy, Beijing), discussions with author, November 2007.
  50. “CSC All-Weather Patrol Rescue Ship Launched,” 国际船艇 [World Ships and Boats] (May 2008), p. 6.
  51. The high level of Chinese interest in this subject is evident, for example, in 张显库, 尹勇, 金一丞 [Zhang Xianku, Yin Yong, and Ji Yicheng], “海上搜救模拟器的直升机悬停鲁棒控制” [Robust Control for Helicopter Hovering in Marine Search and Rescue Simulator], 中国航海 [Navigation of China] 31, no. 1 (March 2008), pp. 1–5; and 贺欣 [He Xin], “救助直升机救助半径分析计算” [Analysis and Calculation of the Service Range of a Rescue Helicopter], 大连海事大学学报 [Journal of Dalian Maritime University] (June 2007), pp. 122–23.
  52. He Zhonglong et al., *Research on the Building of the Chinese Coast Guard*, p. 111.
  53. According to the U.S. Coast Guard liaison officer at the U.S. embassy in Beijing, the China MSA and Rescue and Salvage Bureau currently operate eleven helicopters. Moreland, “U.S.-China Civil Maritime Engagement,” p. 10.

54. "China to Expand Maritime Administration Scope," Xinhua, 12 February 2003, available at [www.china.org.cn/english/China/55774.htm](http://www.china.org.cn/english/China/55774.htm).
55. For basic reporting on this tragedy, see, for example, "Hopes Fade for Shipwreck Survivors," *BBC News*, 26 November 1999, available at [news.bbc.co.uk/2/hi/asia-pacific/536540](http://news.bbc.co.uk/2/hi/asia-pacific/536540). For Chinese reporting, which is relatively extensive, on the incident, see, for example, 胡梓 [Hu Zi], "中国的泰坦尼克的余音" [The Story of China's *Titanic*], 中国船检 [China Ship Survey] (July 2000), pp. 37–38. A more technical Chinese analysis that provides comparative insights is 张文博, 鲍君忠 [Zhang Wenbo and Bao Junzhong], "渤海湾水域海事案例分析" [An Analysis of Maritime Incident Cases in the Bohai Sea Area], 大连海事大学学报 [Journal of Dalian Maritime University] 33 (December 2007), pp. 98–102.
56. Moreland, "U.S.-China Civil Maritime Engagement," p. 10.
57. On safety along the Yangtze, see, for example, 周航, 吴桐 [Zhou Hang and Wu Tong], "浅析长江干线桥区水域安全管理" [Discussion on Safety Management in the Waters adjacent to the Bridges on the Upper Section of the Yangtze River], 中国海事 [China Maritime Affairs] (February 2008), pp. 20–21.
58. "Great Maritime Achievements during the Time of the Tenth Five-Year Plan and Harmonious Development Now and in the Future," p. 11.
59. See, for example, "'富山海'轮与'Gdynia'轮碰撞事故调查" [Investigation in the Collision Involving M/V "Fushanghai" and M/V "Gdynia"], 中国海事 [China Maritime Affairs] (March 2006), pp. 18–21; 李爱民 [Li Aimin], "由'安庆'号油轮爆炸事故引发的思考" [Analysis of the Oil Tanker Explosion Accident aboard the "An Qing"], 中国海事 [China Maritime Affairs] (August 2008), pp. 33–35.
60. 彭宏恺 [Peng Hongkai], "从红海海难看海事管理中德'海思发则'" [Discussion of Accident Law of Maritime Management in the Context of the Disaster in the Red Sea], 中国海事 [China Maritime Affairs] (March 2006), pp. 38–39.
61. See, for example, "英国海上搜救" [Maritime Search and Rescue in the UK], 中国海事 [China Maritime Affairs] (January 2007), pp. 65–67; and 刘松树 [Liu Songshu], "渤海与欧盟地区客滚运输安全的比较与启示" [Comparison and Insights from Bohai Bay and EU Ro/Ro Passenger Transport Safety], 中国海事 [China Maritime Affairs] (September 2007), pp. 40–43.
62. Regarding typhoon preparedness and response, see, for example, 王海潮 [Wang Haichao], "台风: 考验海上灾害预警机制" [Typhoon: A Test for the Maritime Disaster Alerting System], 中国海事 [China Maritime Affairs] (January 2007), pp. 14–17; 袁书明, 单福林, 欧阳泰山 [Yuan Shuming, Dan Fulin, and Ouyang Taishan], "基于电子海图的船舶绕避台风系统设计与实现" [Typhoon Avoidance System Software for Vessel-Based ECDIS], 中国航海 [Navigation of China] (December 2007), pp. 50–53; and 翟久刚 [Zhai Jiugang], "中美防抗台风体制之比较" [A Comparison of the Typhoon Response Systems of China and the United States], 中国海事 [China Maritime Affairs] (February 2006), pp. 52–56.
63. See, for example, the assessment by Ramsey Rayyis, International Red Cross representative in China, as quoted in Jaime FlorCruz, "People, Politics Ease China's Disaster Evacuation Efforts," CNN.com, 9 October 2007. In another example from the same period, MSA ships and aircraft played primary roles in rescuing nearly a thousand fishermen stranded during Typhoon Hagibis. Many were Chinese, but Vietnamese and Filipinos were also rescued by the China MSA. See Xin Dingding, "Aid Dispatched to Fisherman," *China Daily*, 28 November 2007, pp. 1, 3.
64. 林红梅 [Lin Hongmei], "中日俄朝立起油事故互相援助机制" [China, Japan, Russia, and South Korea Establish an Oil-Accident Mutual-Support Mechanism], 人民网 [People's Daily Internet], 3 September 2008, [www.people.com.cn](http://www.people.com.cn).
65. "Two Chinese Ships Sent to Assist in ROK Oil Spill," 中国网 [China Net], 14 December 2008, [www.ching.org.cn/english/international/235711.htm](http://www.ching.org.cn/english/international/235711.htm).
66. Chinese maritime universities have much larger student bodies and also faculties. Perhaps a more telling indicator, however, is that Chinese maritime universities have PhD programs in a variety of disciplines, while their American counterparts do not have PhD programs.
67. 慕永通 [Mu Yongtong], 渔业管理: 以基于权利的管理为中心 [Fisheries Management: Focusing on a Rights-Based Regime] (Qingdao: China Ocean University Press, 2006), p. 292.
68. Yunjun Yu and Yongtong Mu, "The New Institutional Arrangement for Fisheries Management in the Beibu Gulf," *Marine Policy* 30 (2006), p. 251.
69. "Fishery and Aquaculture Country Profiles: China," Food and Agriculture Organization of the United Nations, p. 3, available at [www.fao.org/fishery/countrysector/FI-CP/en](http://www.fao.org/fishery/countrysector/FI-CP/en).
70. *The State of the World Fisheries and Aquaculture 2008* (Rome: United Nations Food and Agriculture Organization, 2009), p. 11, available at [www.fao.org/docrep/10250e/10250e00.htm](http://www.fao.org/docrep/10250e/10250e00.htm).
71. This paragraph draws upon information from "Fishery and Aquaculture Country Profiles:

- China,” and also from 李德水, 王曙光 [Li Deshui and Wang Shugang], 中国海洋统计年鉴 2004 [China Marine Statistical Yearbook 2004] (Beijing: Ocean Press, 2005), pp. xi–xvi.
72. He Zhonglong et al., *Research on the Building of the Chinese Coast Guard*, p. 37.
  73. On this subject, see Lyle Goldstein, “Strategic Implications of Chinese Fisheries Development,” *China Brief* 9, no. 16 (5 August 2009), available at [www.jamestown.org/programs/chinabrief/](http://www.jamestown.org/programs/chinabrief/).
  74. He Zhonglong et al., *Research on the Building of the Chinese Coast Guard*, p. 40.
  75. Guifang Xue, “China’s Distant Water Fisheries and Its Responses to Flag State Responsibilities,” *Marine Policy* 30 (2006), p. 653.
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## Abbreviations and Definitions

A	<b>AIS</b>	Automatic Identification System
	<b>Amver</b>	Automated Mutual-Assistance Vessel Rescue (system)
B	<b>BCD</b>	Border Control Department
C	<b>CSI</b>	Container Security Initiative
	<b>CMS</b>	China Maritime Surveillance
E	<b>EEZ</b>	exclusive economic zone
F	<b>FLEC</b>	Fisheries Law Enforcement Command
G	<b>GAC</b>	General Administration of Customs
M	<b>MSA</b>	Maritime Safety Administration
P	<b>PLA</b>	People's Liberation Army
	<b>PRC</b>	People's Republic of China
R	<b>RCC</b>	Rescue Coordination Center
	<b>ROK</b>	Republic of Korea
S	<b>SOA</b>	State Oceanographic Administration
U	<b>USCG</b>	U.S. Coast Guard

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